ST. BARTHOLOMEW'S HOSPITAL JOURNAL

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EDITORIAL

Among the many new sciences to flower in recent years is that of advertising. To persuade the public to buy their products or to swallow their ideas, the manufacturers and ideologists no longer rely on intuition to find the best methods of persuasion. They read Freud and influence us through our ids, egos and super-egos. They conduct large-scale sociological investigations into our motivations. They apply the work of Pavlov as though we were salivating dogs. They know what they are doing, and we buy their products and often accept their ideas. We often complain of advertising methods, but should we, when it is we who are acting like susceptible automatons?

Advertising is, as everyone knows, a bad word in the medical profession. But is there not a case for more advertising in this field? A large number of people will buy "X's medicine" for the relief of 'flu, constipation, disseminated sclerosis and rheumatic pains, no matter what its constituents are, if it is well and widely advertised. What is more, they will feel much better for it, and come back for another dose. Now, if doctors, hospitals and various forms of medical treatment could be advertised in the same way, would it not be an excellent thing. If so much faith can be engendered by so small a thing as "X's medicine," how much more could be produced on behalf of modern medical practice. And faith is often lacking, even where it would help most. For instance, many cancers would come to hospital earlier if patients knew what to look for and put their trust in modern treatment.

This is a false argument, though. For if the medical profession were to advertise itself, it would lose as much respect as it would gain publicity. It is much better to allow the present system to remain, whereby the achievements of the profession are gratuitously advertised on the most colossal scale by all the mass means of communication. Undoubtedly more good comes from this sort of publicity than from any actually sponsored by the profession itself. The prestige, to take an example, not only of the individuals concerned, not only of the hospital concerned, but of the whole of British surgery, has been raised by the recent visit of a party of heart surgeons to Russia. Similarly, in the recent well-publicised operation at this hospital. It is irrelevant to say that names of people should not be mentioned in these cases. The public wants names, the journalists are going to get hold of the names if they are withheld, so they should be given, in the sensible way in which they were in the bulletins issued from Barts.

Let us not shrink from making public outstanding achievements in medicine, but rather, while avoiding the methods used by the advertising men, see that as many as possible know of, and understand, these achievements.

CALENDAR

June

Sat. 6—Dr. E. R. Cullinan on duty
Mr. J. P. Hosford on duty
Mr. C. Langton Hewer on duty

Sat. 13—Medical and Surgical Units on duty
Mr. G. H. Ellis on duty

Sat. 20—Dr. R. Bodley Scott on duty
Mr. A. H. Hunt on duty
Mr. F. T. Evans on duty

Sat. 27—Dr. A. W. Spence on duty
Mr. C. Naunton Morgan on duty
Mr. R. A. Bowen on duty

July

Sat. 4—Dr. G. W. Hayward on duty
Mr. A. W. Badenoch on duty
Mr. R. W. Ballantine on duty

Sat. 11—Dr. E. R. Cullinan on duty
Mr. J. P. Hosford on duty
Mr. C. Langton Hewer on duty

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Fifty Years Ago

The *Journal* of June, 1909, was a special number to commemorate the opening of the new Pathological Block by the Lord Mayor of London on May 7th. "The ceremony was marked by the attendance of a large number of visitors, and the subsequent function of Tea in the Square, enlivened by the music of a first-class band, proved very enjoyable."

The ceremony consisted of a tour of inspection of the new block by the Lord Mayor, Sir George Wyatt Truscott, and the sheriffs, followed by speeches in the Great Hall. Lord Sandhurst, the treasurer, first addressed the large audience. He spoke of the long association between the hospital and the city, and of how the new Pathological Building would "increase the usefulness of this Hospital to the citizens of London, and to the world beyond the City."

The Lord Mayor, in reply, thanked Lord Sandhurst very much for the address. He went on to say how notable had been the advances in medicine in the preceding years, and how he hoped this advance would be maintained in the new building; in particular that a cure would be found for "that dire disease which appears to be increasing in our midst—that of cancer." He ended by congratulating his old friend, Mr. I'Anson "on the beautiful building he has given us. If there is one thing that is desirable it is a light building. Well, there is not a dark corner in the Block, and I am sure that microbes and bacteria are going to have a very bad time of it."

On the next pages of the *Journal* is a description of the new Pathological Department. The writer remarks that to many it will appear unduly large. But he justifies its size by listing its facilities, including the electric clock in the hall, "from which all the other clocks in the building are also actuated. A brief study of its mechanism may be commended to all and sundry, as a pleasurable and instructive occupation for a part of the luncheon hour." The author of this description then takes the reader on a tour of the new block, ending with a short peroration hoping that the increased facilities and staff would lead to "a steady growth in the good work done in the department, both in the ordinary routine of hospital work and teaching, and in research." A hope that has surely been fulfilled.

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Other items in the *Journal* of fifty years ago include a reference to the departure of four French pupil nurses who had had two months residence in the hospital, and were to be followed by four more.

The Treasurer's report for 1908 disclosed a loss in the financial year of £12,000. Indeed, such was the financial difficulty of the hospital at this time that there was talk of closing half the beds.

Athletics enthusiasts may be interested to know that at Sports Day on June 19th, 1909, the mile was won by T. H. Just (scr.) in 5m. 14s. and the half mile by A. Abrahams (rec. 40 yds.) in 2m. 9s. The Obstacle Race was won by M. Maclaren. It is a great pity that the latter event has been dropped from present-day Sports Days.

The Film Society

Alfred Hitchcock has long ceased to be a British director. However, he did more than anyone else to establish the British cinema internationally in the thirties, and then departed for Hollywood. The most consistently cold-blooded and successful of thriller directors, Hitchcock has always played blandly and insolently with the nerves of his audience. In the uneasy thirties, *The Man Who Knew Too Much*, *The Thirty-nine Steps* and *The Lady Vanishes* established Hitchcock as *the* British director. There was no need to look for concealed symbolism beneath the surface of these fast political thrillers. However, his technique was not immediately accepted in this country, and he was lost to Hollywood in 1940. However, today it seems that new techniques are at last being accepted, especially with the free hand possible in the emergence of independent companies. The success of *Room at the Top* may very well be a renaissance in the apathetic and soulless British cinema seen since the war, created by the " established " ideas of the older directors and producers.

Rear Window, shown on Monday, May 4th, finds Hitchcock once again playing with our nerves.

First, a vista of flats, with their inhabitants each living in their own little world. The camera moves discreetly from one little world to the next—the ageing ballet dancer still surrounded by her admirers, the young romantic song writer, the married and the single. All this as seen through the eyes of a dare-devil magazine photographer, played by James Stewart, recovering from a broken leg. Hitchcock soon subtly hints that something may be wrong in one of the flats. The tension builds up, and soon it seems possible that a woman has been murdered. Then, at the climax, Stewart is confronted by the murderer in his room. Here was one of the scenes which Hitchcock has always delighted in.

The film moves rather slowly at times in the opening sequences. There is some amusing backchat with a cool heroine, played by Grace Kelly, who also supplies the amorous interludes with the rather unwilling James Stewart.

For many years now Hitchcock has briefly appeared in his own films, and it would be interesting to know how many of the audience noticed his fleeting appearance in *Rear Window*.

D.E.B.

ANNOUNCEMENTS

Marriages

FREEMAN—CROCKETT.—On April 3rd, Peter Freeman, F.R.C.S., to Daphne Crockett.

WOOD—ADDISON.—On April 14th, Christopher Bryan Somerset Wood to Mary Margaret Addison.

Births

ADAM.—On April 10th, to Valerie, wife of Dr. Robert M. Adam, a son (Robert Travers).

ARMSTRONG.—On April 17th, to Sylvia, wife of Dr. P. L. McN. Armstrong, a daughter.

HADLEY.—On March 27th, to Patricia and Dr. Dunstan Hadley, a son.

HAVARD.—On April 17th, to Mhairi and Dr. Cyril William Holmes Havard, a daughter (Susan), sister to Mark and John.

MIDDLETON.—On April 9th, to Jeanne and Dr. George Middleton, a second son.

SAMRAH.—On March 26th, to Margaret Josephine and Maurice Edward Samrah, M.B., B.S., F.F.A.R.C.S., a son (Paul Edward Marshall).

THOMPSON.—On April 14th, at Hiranpur Mission Hospital, Bihar, India, to Helen, wife of Dr. Bryan Thompson, a daughter.

Deaths

ANDREW.—On April 25th, Dr. John Andrew. Qualified 1916.

ASHTON.—On March 31st, Dr. Dan Royd Ashton. Qualified 1933.

EDDISON.—On April 12th, Dr. Francis Ryalls Eddison, aged 85. Qualified 1898.

EVANS.—On April 12th, Dr. Myrddin J. Evans. Qualified 1928.

THOMAS.—On April 6th, Dr. Robert John Percy Thomas, aged 79. Qualified 1903.

NOTICES

Appointments

ROYAL COLLEGE OF SURGEONS.—Prof. A. J. E. Cave has been elected a Fellow of the College without examination.
Dr. E. F. Scowen has been appointed Imperial Cancer Research Fund Lecturer for 1960.

UNIVERSITY OF LONDON.—Dr. C. F. Harris has been re-elected Vice-Chancellor of London University from September 1st for the university year 1959-60.

UNIVERSITY OF TORONTO.—Dr. John R. Brown has been appointed Professor of Physiological Hygiene at the University of Toronto.

Changes of Address

SURG. LT. R. A. BUGLER, R.N.,
6 Nasmith Close,
Gosport.

DR. P. C. COLLYNS,
Flat 2,
Fairfield Mansions,
2 Rockleaze,
Bristol, 9.

1959 PRIZE WINNERS

Brackenbury Scholarship in Surgery :
D. J. Tooby.

Brackenbury Scholarship in Medicine :
D. J. Tooby.

Skynner Prize : J. D. Parkes.

Walsham Prize : D. J. Tooby.

Mathews Duncan Medal and Prize :
M. J. L. Patterson.

Burrows Prize : J. D. Parkes.

Willett Medal : D. J. Tooby.

Roxburgh Prize : M. Janosi.

Kirkes Prize : G. M. Besser, R. W. Cleave. (medal not awarded).

The outstanding feat of D. J. Tooby in winning both the Surgical and Medical Brackenbury's has previously only been performed by M. B. McIlroy in 1944 and C. M. Fletcher in 1939. Mr. Tooby was not permitted to take up both scholarships, and chose that in Medicine.

THE TREATMENT OF BASAL CELLED CARCINOMA OF THE EYELID, SURGERY OR IRRADIATION

by H. B. Stallard

IS IT BETTER to excise adequately and graft an eyelid affected by a basal-celled carcinoma or to irradiate the neoplasm?

For a quarter of a century the majority of authors of standard surgical text books have written in favour of irradiation and even in the larger works, intended for post-graduates, there is a notable absence of comment about the serious ocular complications which may follow irradiation. I am aware that in an eye department we see more of the disasters and less of the successes of radiotherapy and so may acquire a disproportionate idea of the incidence of success and failure. Nevertheless the misfortunes of irradiation, when these happen, are so grave and lasting that due consideration should be given to the advantages of surgical excision.

It is only proper and fair to state that the incidence of post-irradiation mishaps in the hands of skilled radiotherapists, such as those in this hospital, are now much less frequent and less severe than in the past. (The illustrations in this paper of the more serious complications are of patients treated elsewhere than here.)

An important pathological feature of the three types of basal-celled carcinoma, the hypertrophic, cicatrizing and ulcerating (or circumscribed, early infiltrating and infiltrating) which favours surgical treatment is the fact that penetration in depth is slow, its infiltration being delayed by fascia and muscle. The spread of the neoplasm is more rapid on the surface than in depth. In 98.4 per cent of cases this neoplasm affects the head and neck and in 68.3 per cent it is within the " mask " area bounded by lines drawn from the auricles to the supra-orbital margins and to the angles of the mouth.

The Literature. The case for irradiation has been stated by so eminent an authority as Sir Stanford Cade (Malignant Disease and its Treatment by Radium. Vol. 4. John Wright. 1952), who states " With very few exceptions, the majority of authors in England, on the Continent and in the United States agree that radiation has proved of such value that it has displaced most other methods in the treatment of rodent ulcer." Roy Ward, Brit. Med. Jl. (1930). 2, 511, also considers that radium is the method of choice. In the Index of Treatment by Sir Robert Hutchinson. 13th ed. John Wright. Bristol. 1948, it is recommended that " malignant neoplasms of the eyelids should be treated by radium or X-rays because of the deformity caused by excision." Ian Aird (A Companion in Surgical Studies. 2nd ed. Livingstone. 1957), comments that " the rodent ulcer can be depended upon to disappear by X-ray treatment." C. F. W. Illingworth, Short Textbook of Surgery, 6th ed. Churchill. London. 1955, advises " treatment in most cases by radium, a surface plaque. If radium is not available excise." Bailey and Love, Short Practice of Surgery. 10th ed. H. K. Lewis. London. 1956, recommend early excision in one chapter of their book but on p. 708 state " If the ulcer occurs on the face this line of treatment (excision) is not advised as an unsightly scar may result. The application of a radium plaque is recommended." However, in Essentials of Modern Surgery. Handfield Jones and Porritt. 5th ed. Livingstone. 1957, comment that " excision of the neoplasm is the best treatment."

Such teaching, the majority in favour of irradiation, together with the pleasant co-operation and willingness of radiotherapists to treat these patients, and their undoubtedly good results in a fair percentage of cases has lead increasingly to the diversion of these patients with affected eyelids from the eye surgeon to the radiotherapeutic department.

It has been argued in favour of radiotherapy that the patient does not require admission to a hospital bed and may be treated as an out-patient. Whilst this is true no comment is made about the subsequent attendance in the eye department for

months, and often with a long stay in hospital, for the treatment of intratractable post-irradiation complications which are uneconomic in loss of time, suffering and ultimate disability.

Biopsy. A point of particular difficulty before irradiation treatment concerns an adequate histological diagnosis for the cellular structure of the tumour varies in different patients and some types are less favourable for irradiation than others. Such is often unobtainable from a biopsy which does not traverse the whole length of the neoplasm and its full depth. Moreover, the disturbance effected by a biopsy is often dangerous. This being so it is reasonable to excise the neoplasm widely (an excisional biopsy) and to reconstruct the defect by grafting. The general surgical books, presumably mindful of the scars made by grosser suturing, stress the deformity after surgical attention, an accusation unjustified by the results which follow careful reconstructive technique. Obviously such work should not be attempted in the out-patient minor operating theatre for it requires careful planning, appropriate operating theatre conditions, small instruments of exquisite perfection and the technical skill of a pair of hands accustomed to miniature surgery.

My experience, contrary to the opinion expressed in some text books, is that recurrence after adequate surgery is quite rare whereas this is not so after irradiation.

Fig. 1. E.S. Irradiation of basal-celled carcinoma at right medial canthus. Painful scar. Cicatricial ectropion, occlusion of lacrimal canaliculi and lacrimal sac. Keratinization of bulbar conjunctiva, superficial punctate keratitis and irradiation cataract.

Other advantages of surgery are the quick healing, generally the graft has a 100 per cent take, the comfort of the eyelid after the first dressing, and in most cases the lid functions well. After irradiation there may occur late ocular complications such as

Fig. 2. Irradiation of basal-celled carcinoma at left lower lid. Chronic post-irradiation ulcer.

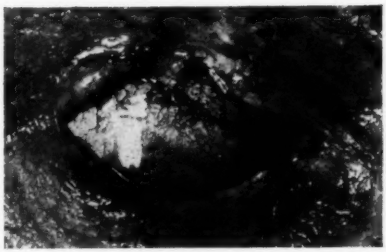


Fig. 3. Post-irradiation coloboma of over half of the right upper lid.

superficial punctate keratitis, complicated glaucoma, iridocyclitis and cataract, painful irradiation scars and cicatricial ectropion (Fig. 1), Necrotic ulcers (Fig. 2). A full thickness necrosis of part or whole of an eyelid (Fig. 3) telangiectasis, skin atrophy, keratinization of conjunctiva and epilation which may follow irradiation.

Although a basal-celled carcinoma at the medial canthus may necessitate excision of the lower lacrimal canaliculus and punctum surgical reconstruction of tear drainage may be achieved either by a transplantation of the upper canaliculus and punctum or by an anastomosis of the mobilized fundus of the lacrimal sac with the conjunctiva in

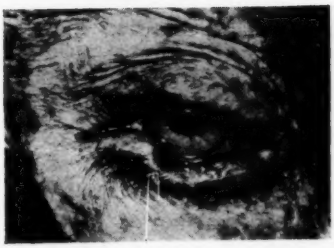


Fig. 4. The appearance of basal-celled carcinoma in the left lower lid after irradiation for sycosis. The eye is aphakic (post-irradiation cataract). The skin of the entire face was thin, atrophic, inelastic, had telangiectases and multiple carcinomata.

flank such a protective device. The destruction of the neoplasm by irradiation is often a matter of doubt for the histological features of some make these less responsive to irradiation than others. Besides local recurrences from undestroyed cells, irradiation may excite neoplastic formations in the adjacent skin (Fig. 4), and so damage the blood supply as to make the reconstruction of the area more difficult. A free graft is embarrassed by poor blood supply from its irradiated base. Because of this vascular deficiency it is sometimes necessary to use a pedicle graft to replace a refractory ulcer in the centre of an irradiation scar which has also caused some local distortion of the eyelids. So the odds are in favour of adequate surgical excision and reconstruction of the defect by grafts. If the neoplasm has invaded bone, as it may in a neglected growth at the lateral canthus, the affected bone must be resected with a 5 mm. clear margin. In such a case

Fig. 5. A. Basal-celled carcinoma right lower lid. B. After excision and full thickness graft.

the lacus lacrimalis (Stallard's operation) whereas irradiation at the medial canthus occludes upper and lower canaliculi and the sac, and moreover the irradiated tissues around the sac doom to failure any attempt to effect a grafted drainage canal between the conjunctival sac and the nose.

It is impossible always to achieve adequate protection of the lens by a lead contact mould, set in the conjunctival sac, for X-rays fired either obliquely or transversely at a neoplasm involving a canthus may outskin cover by sliding adjacent flaps is preferred to the application of a free skin graft.

PRINCIPLES OF SURGICAL RECONSTRUCTION AFTER EXCISION

(1) Excision. Reconstruction with free skin graft

If the neoplasm has proliferated well above the skin surface, has not infiltrated deeply and its margin is at least 4 mm. clear of the lid margin (Fig. 5A) excision up to the lid margin, 5 mm. wide elsewhere and

through the orbicularis muscle down to the tarsal plate is generally adequate. The adjacent orbicularis muscle is mobilized and sutured to the anterior surface of the tarsal plate with a few interrupted sutures of 20 day 4/0 chromic catgut. An exact pattern of the skin defect is made with oil silk and a full thickness free skin graft is cut from the redundant skin of the upper lid in the elderly in the case of grafts 2 × 1 cm. and from the retro-auricular skin when the patient is middle-aged and the defect is larger than 2 × 1 cm.

The sutures uniting the edge of the graft to the adjacent lid skin are left long and when suturing is complete these are carried over a moulded spindle of flavine wool and tied. A pressure dressing is applied.

Donor eyelid skin tones in perfectly and retro-auricular skin carefully chosen does likewise (Fig. 5B).

Fig. 6. Basal-celled carcinoma involving lower lid margin.

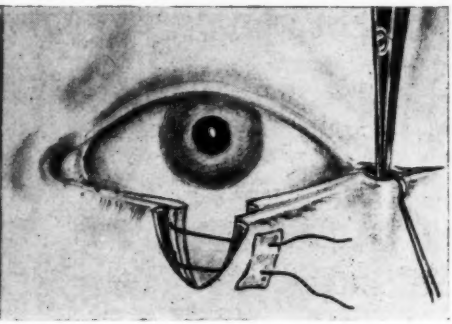


Fig. 7. Full thickness excision of one-third or less of the eyelid. Closure is aided by orbicularis myotomy at the lateral canthus and Wheeler's halving operation of the lid margin.

(2) Closure of a small full-thickness defect by mobilization and sliding. Wheeler's halving of lid margin

When the lid margin is involved in the neoplasm or the latter has infiltrated deeply and less than one-third of the length of the eye is involved (Fig. 6) either a triangular or quadrilateral excision of the full-thickness of the lid is indicated. The defect is closed by sliding the lateral part of the lid towards the medial edge after performing a vertical myotomy of the orbicularis muscle below the lateral canthus (Fig. 7), and lateral canthotomy. The opposed edges of the lid coloboma are halved by splitting the "grey line" and excising a triangle from each, the base being at the lid margin, the anterior consisting of skin and orbicularis muscle and the posterior of tarsal plate and palpebral conjunctiva. One or two mattress sutures (Fig. 7) traverse these to effect apposition. This halving prevents a vertical notch at the site of union on the lid margin.

(3) Reconstruction of large full-thickness defect by a mucosal-lined bridge pedicle

When more than one-third of the lid margin and deeper tissues of the lid are involved in the neoplasm then almost total, or indeed total, excision is indicated. Such extensive reconstruction of the lower lid is less formidable than the upper.

Lower lid reconstruction

After excision of most or all of the lower lid the upper lid margin is freshened as for tarsorrhaphy and is sutured to the skin and muscle edge of the defect. A "delayed" bridge pedicle of skin of the upper lid is now raised and lined either with a free buccal mucuous membrane graft or conjunctiva excised from the upper fornix of appropriate size, the bridge pedicle is temporarily replaced, a strip of oil silk

Fig. 8. Total loss of left lower lid. A. Upper lid margin sutured to cheek. " Delayed " bridge pedicle in upper lid lined by buccal mucosa. B. One week later, tarsorrhaphy severed, " bridge " pedicle transposed to form new lower lid, skin defect in upper lid filled by full thickness skin graft.

separating the mucosal lining from the orbicularis muscle of the upper lid. (Fig. 8.) pedicle from the upper lid is swung down and sutured into the lower lid defect, and

Fig. 9. Result. Eyelids open and closed.

A week later the temporary tarsorrhaphy is divided and the mucosal lined bridge to enhance its blood supply and to assist in maintaining its desired position its upper

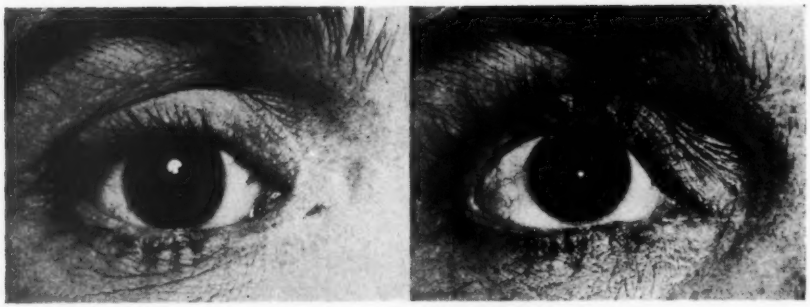


Fig. 10. A. Basal-celled carcinoma involving medial canthus. B. After excision of neoplasm and reconstruction with mucosal lined skin pedicle from upper lid.

Fig. 11. A. Infiltrative type of basal-celled carcinoma of the right medial canthus. B. The neoplasm has been widely excised with the lower canaliculus. The defect has been filled by a pedicle from the upper lid lined with a conjunctival graft. (The central notch in the lid margin requires a small plastic procedure for its elimination.)

edge is sutured to the raw surface of the upper lid margin prepared for the tarsorrhaphy.

Into the skin defect of the upper lid at the site of the bridge pedicle a full-thickness free skin graft is placed. When the mucosal-lined bridge pedicle has been in place for two months the tarsorrhaphy is severed and the ends of the pedicle trimmed and replaced in the upper lid (Fig. 9A & B).

Full thickness reconstruction of (a) medial and (b) lateral halves of the lower eyelid

The neoplasm is widely excised. In the case of the medial canthus this involves the sacrifice of the lower lacrimal punctum and canaliculus (Fig. 10A and B). If the epiphora is troublesome at a later date either transplantation of the upper canaliculus or the opened fundus of the lacrimal sac into the lacus lacrimalis is tried in an attempt to re-establish the drainage of tears.

The upper lid margin is freshened and sutured to the inferior edge of the lower lid defect. A delayed skin pedicle lined by mucosa of appropriate size is cut in the upper lid.

One week later the tarsorrhaphy is severed and the mucosal lined pedicle is swung down into position to fill the defect and to give improved support at the canthus. (Fig. 10B and Figs. 11A and B.)

Upper lid reconstruction

When the neoplasm has infiltrated deeply into more than one-third of the upper lid

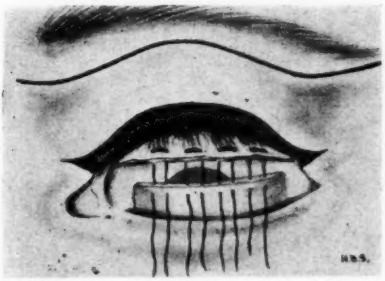


Fig. 12. Drawing to show surgical steps in the reconstruction of the upper lid. Splitting of lower lid in grey line, mobilization of tarsal plate and palpebral conjunctiva which is sutured to frill of conjunctiva in upper fornix and to levator palpebrae superioris. A bridge pedicle of skin and orbicularis muscle is raised from the skin below the eyebrow.

and the lid margin is affected adequately wide excision presents a more serious reconstructive problem than in the case of the lower lid.

If possible the upper rim of the tarsal plate with the insertion of the levator palpebra superioris is conserved and at any rate this muscle must be identified and held in three or four "whip" sutures of 20 day 4/0 chromic catgut. The conjunctiva of the upper fornix is undermined and mobilized to turn down with the remains of the tarsus.

The grey line of the lower lid margin is split and the line of cleavage made down to the level of the lower fornix. The lower tarsal plate and palpebral conjunctiva, thus separated, are then mobilized by vertical cuts at the medial and lateral ends of the plate which is now brought up and sutured with 20 day 4/0 chromic catgut to the lower margin of the remains of the upper tarsal plate (Fig. 12). The eye is thus covered with conjunctiva.

A bridge pedicle of orbicularis muscle 1.5-2 cm. wide is now dissected from the peri-orbital part of this muscle and is brought down to cover the tarsal plate to which it is anchored by a few interrupted catgut sutures.

It may be possible to bring down a bridge pedicle of skin from just below the orbital margin and to suture this to the everted raw surface of the lower lid margin. Into the skin defect whence this bridge pedicle has been taken a full thickness free post-auricular skin graft is placed. (Figs. 13A and B.)

Two to three months later the tarsorrhaphy is opened, the lower margin of the tarsal plate of the lower lid is cut along its full length and is united by fine silk mattress sutures to the lower margin of the upper lid skin.

The conjunctiva of the lower fornix should be in good position for suture to the lower lid margin by mattress sutures of fine silk.

Epilogue

Figs. 14A and B and 15A and B show comparable hypertrophic basal-celled carcinoma in two patients that shown in Fig. 14A and B was treated with perfection by Dr. A. Jones, M.D., M.R.C.P., in our Radiotherapeutic

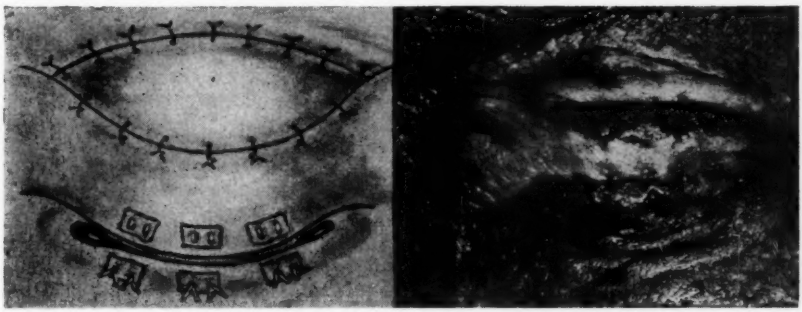


Fig. 13. A. Drawing to show bridge pedicle of skin and orbicularis brought down and sutured to lid margin. Skin defect at donor site of bridge pedicle is filled with a full thickness post-auricular skin graft. B. Photograph eight days after operation.

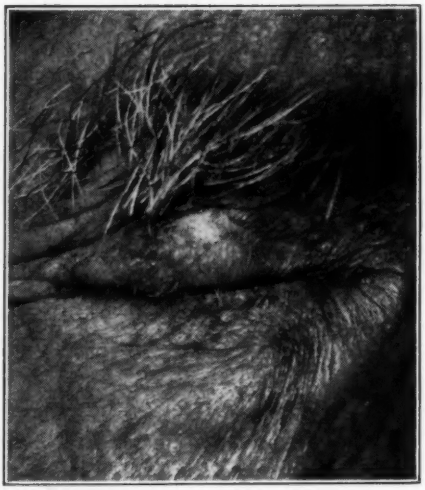
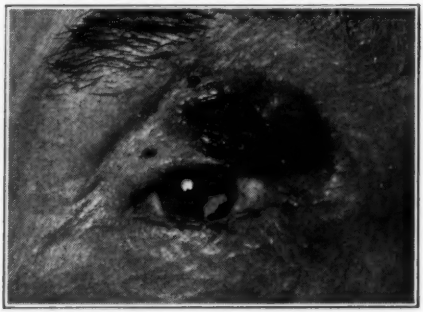


Fig. 14. A. Hypertrophic basal-celled carcinoma upper lid. B. After irradiation.



carcinoma upper lid. B. Three months after surgical excision and full thickness post-auricular graft.

department, an admirable cosmetic and functional result. Fig. 15B shows in the other patient the effect three months after wide surgical excision with a free skin graft to most of the upper lid placed over a transposed band of orbicularis muscle. The function of the eyelid is opening and closure is quite normal. In fact, the only apparent anatomical difference between the result of these two methods of treatment is that the one has the thin atrophic irradiated skin and the other has a free full thickness skin graft lying on a

Fig. 15. A. Hypertrophic basal-celled

continued on page 159

ASSESSMENT OF ADRENAL ACTIVITY IN HEALTH AND DISEASE

by A. M. Robinson

The increasing requests for the estimation of 17-ketosteroids, 17-ketogenic steroids and 17-hydroxycorticosteroids, make it necessary to provide a simple account of the origin of these steroids and the use of their estimation in medical practice.

Androgens

The androgens are compounds which cause development of the male sex organs and secondary sex characteristics (e.g. the capon's comb which is commonly used for biological testing). They are C_{19} steroids with no side chain at C_{-17} and have oxygen substituents at C_{-3} and C_{-17}. There is a carbonyl group at C_{-17}. They are known as 17-keto or 17-oxosteroids.

The principal 17-ketosteroids found in human urine are androsterone, etiocholanolone and dehydroisoandrosterone, and although many other more highly oxygenated steroids have been isolated, they are usually present in small amounts, and do not make any considerable contribution to the total ketosteroids in normal subjects.

Source of Androgens in Urine

(*a*) *Adrenal Cortex*

The 17-ketosteroids excreted in human urine are mainly derived from the adrenal cortex. This is clearly shown from the fact that persons suffering from complete Addison's disease excrete little or no 17-ketosteroids, while women suffering from masculinisation as a result of adrenal hyperactivity may excrete greatly increased amounts of 17-ketosteroids (Callow, 1939).

(*b*) *Testis*

The interstitial tissue of the testes has been shown to elaborate an androgenic hormone testosterone, of which the metabolic products are androsterone and etiocholanolone, and these substances contribute to the total 17-ketosteroids in male subjects. About 5 mg. 17-ketosteroids per day may be of testicular origin. Further proof for this is provided by the great excess of 17-ketosteroids shown in certain cases of interstitial cell tumours (Venning, E. H., Hoffman, M. M. and Brown, J. S. L. (1942)), and by the fact that cryptorchid males and males suffering from damage to the interstitial tissue of the testes show values which are lower than the average for their sex and more nearly approximate to the female levels of excretion.

(*c*) *Ovary*

Androgenic material has been demonstrated in some ovarian tissue, but if any elaboration of androgenic material occurs in the human ovaries it can for all practical purposes be ignored, as bilateral oophorectomy in women does not result in a measureable fall in 17-kerosteroid excretion.

Adrenal Cortical Hormones

In additional to elaborating 17-ketosteroids the cortex of the adrenal produces a number of steroid hormones which are essential for the maintenance of life, and which may be involved in the metabolism of water and electrolytes, of carbohydrates, and of proteins. Deficiency or excess of these hormones produces a variety of metabolic disturbances.

More than thirty different adrenal steroids have been isolated, of which many are biologically inactive. The active and nearly all the inactive adrenal steroids are C_{21} steroids, nearly all have a highly oxidised side chain at C_{-17} and all the active compounds have a Δ^4-3-ketone group, e.g. cortisone and corticosterone. Many of these C_{21} steroids have an oxygen atom at C_{-11}, and at one time they were classified on the basis of the presence or absence of this C_{-11} oxygen atom, thus glucocorticoids, which are most active in carbohydrate metabolism, all had the oxygen atom at C_{-11}, while the mineral corticoids, which are most active in relation to salt and water metabolism, had no oxygen atom at C_{-11}. The discovery, however, of aldosterone (electrocortin) a very active mineral corticoid with an oxygen atom at C_{-11} makes this generalisation incorrect.

Chemical Determination of Urinary 17-Ketosteroids

Urinary 17-ketosteroids are excreted mainly as glucuronides and sulphates, and methods for their estimation involve the splitting of these conjugates by the use of acids or enzymes.

For isolation studies the use of enzymes is preferred, but it is costly and time consuming. For routine total 17-ketosteroid assays, acid hydrolysis is satisfactory. The main disadvantage of the use of strong mineral acid, the formation of artefacts due to dehydration and substitution, does not affect the final total assay of the 17-ketone group, although it affects the chemical nature of the steroids making up this total figure.

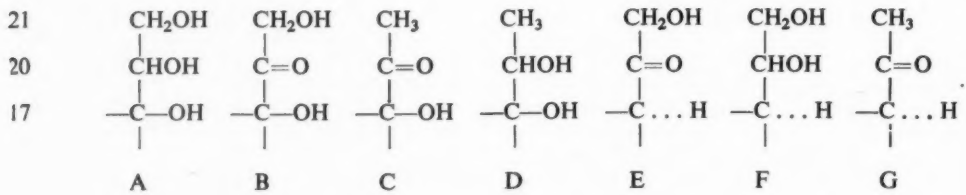
The method most generally used in this country and routinely in this hospital for the estimation of 17-ketosteroid excretion is the standard M.R.C. method.

The method is based on the Callow modification of the Zimmermann reaction (1938) and, in my experience, is the most satisfactory and reproducible procedure available.

For the purpose of evaluating any reported results, it is necessary to know the method used and the normal values obtained.

Chemical Determination of Urinary Adrenal Cortical Hormones

The chemical determination of adrenal cortical hormones is a more complicated process than the measurement of 17-ketosteroids owing to the variations which occur in the side chain at C_{17}. As many as seven types of two carbon side chains at C_{17} may be present.



The seven types of two carbon side chains

These side chains react specifically to different methods of assay, and there is no method available which will estimate accurately all the variants.

Most of the chemical methods involve the same general principles, the use of acid or enzymes for the hydrolysis of the urinary corticoids (excreted as sulphates or glucuronides) followed by extraction of the hydrolysed urine with suitable organic solvents. Estimations may be carried out on this crude extract, or further purifications may be introduced.

Criticism can be levelled at either procedure. When the estimations are carried out on the crude extract they are relatively non-specific, but when purification processes are introduced unless they are very carefully controlled they may lead to the loss of some of the steroids which are very labile to heat or changes of pH. This makes the assessment of the results obtained in different laboratories difficult, but when due consideration is given to the limitations of a method, many of them are sufficiently accurate for most clinical purposes.

In addition to group estimations, individual corticosteroids can be estimated after complicated and time-consuming procedures, and it is only by the use of such procedures that any genuine advance in our knowledge can take place. It is hoped, however, that in time these methods may become sufficiently simplified for routine medical practice, but at the present time to obtain any insight into the adrenal activity of patients we have to be satisfied with use of one or more relatively unspecific methods.

The chemical methods which have received most general acceptance for the estimation of corticosteroids in urine are summarised below.

Reducing Methods

Talbot, Saltzman, Wixom and Wolfe (1945) and Heard and Sobel (1946) devised methods based on the reduction of cupric ions and phosphomolybdic acid by corticosteroids possessing a reducing group in the molecule. In the copper method the reducing group is the α-ketol group (B & E) and in the phosphomolybdic method the reaction is given by this α-ketol group and/or by the $\alpha:\beta$ unsaturated-3-ketone group.

Oxidation Methods

A method using periodic acid for the estimation of urinary corticoids was reported by Loewenstein, B. E., Corcoran, A. C. and Page, I. H. (1946) and developed by Daughaday, W. H., Jaffett and Williams, R. H. (1948) and Marrian, G. F. and co-workers (1950, 1953).

This method was based on the fact that the 20:21 α ketols and glycols (A, B, E, F) when treated with periodic acid released formaldehyde and the estimation of this served as a measure of steroids possessing this side chain in the urinary extract (formaldehydogenic steroids). Cox, R. I. (1952) has developed a similar method for the 17:20-diols not carrying an hydroxyl group at C_{21} which on treatment with periodate yield acetaldehyde (hence acetaldehydogenic steroids).

N.B.—Where a value for glucocorticoids is found in the literature it probably refers to an estimation by a reducing or oxidation method of the water soluble portion of the urinary extract.

Chromogenic Method. Porter Silber

The most widely used of the chromogenic methods is that developed by Porter, C. C., Silber, R. H. (1950).

This method is based upon the yellow colour obtained by the addition of phenylhydrazine and sulphuric acid to solutions of steroids having a dihydroxy acetone grouping (B). These authors claim that the test is specific for this grouping, this is true when adequate purification of the urinary extract is carried out, but some laboratories do not exercise sufficient care in these purification processes and then the reaction is anything but specific.

Care must also be taken to avoid the administration to the patient of certain drugs and foods during the test which interfere with the reaction, e.g. paraldehyde, quinine, sulphamethazine, sulphadiazine, ascorbic acid, spinach and various vegetables.

During the last few years the estimation of 17-*ketogenic steroids and* 17-*hydroxycorticosteroids* by a method developed by Norymberski and his co-workers (Brooks, C. J. W. and Norymberski, J. K., 1953; Appleby, J. I., Gibson, G., Norymberski, J. K. and Stubbs, R. D., 1955; Norymberski and Stubbs, R. D., 1956) has been the accepted procedure in many hospital laboratories in this country. These methods have the advantage that they can be carried out on a small aliquot of a 24 hour collection of urine, and no tediuos extraction and processing of the extract is required.

When urine containing urinary corticoids with structure A, B and D are treated with sodium bismuthate selective oxidative fission of the corticosteroidal side chain takes place, and the steroid residue is left as 17-ketosteroid, hence the name ketogenic steroids is applied to A, B and D.

Type C is unaffected by treatment with sodium bismuthate, but if urine containing this is treated with sodium borohydride, the 20 C=0 group is reduced to 20 CH.OH it then becomes type D and can be satisfactorily oxidised with sodium bismuthate to 17-ketosteroids and together with A, B and D, constitute the 17-hydroxycorticosteroids.

In practice in most normal persons the agreement between the values for 17-ketogenic and 17-hydroxycorticosteroids are within the experimental limits of either assay.

17-ketosteroid Levels in Normal Subjects

Children

Up to the age of 5-6 years, both girls and boys show an extremely low excretion of 17-ketosteroids, less than 1 mg./day (usually 0.25-0.5 mg.). From 6-7 years, a relatively rapid increase in urinary 17-ketosteroids occurs, and between the ages of 10-12 years, the statistical divergences between the sexes can be detected. Adult levels are not reached until adolescence is complete.

Men and Women

To establish the range and mean values for 17-ketosteroids in normal subjects, specimens of urine were provided by students, laboratory staff and their friends. The only standard of normality demanded was that the subject should be in good health, performing a

normal day's work, and not suffering from a known endocrine disorder. With this proviso, our results are summarised below :—

A group of 133 male subjects (20-40 years) gave a mean excretion of 14.1mg./day (variation 2-27 mg.), a total of 204 males (20-70 years) gave a mean excretion of 12.5 mg.

A group of 54 women (18-40 years) gave a mean excretion of 10.6 mg./day (variation 5-18 mg.).

These results are in good agreement with those reported by Dorman and Shipley, who give a complete report on urinary 17-ketosteroid excretion in men and women. The mean excretion for men (20-50 years) from 12 reports using similar methods involving a colour correction is 13.8 mg./day (variation 7.6-20 mg.) and for women, the mean excretion is 9.1 mg.

The only discrepancy between the results is that we have a group of younger men (about 10 per cent) who are apparently normal, but have an excretion of 5 mg./day or less.

Older Men and Women

Some decline in urinary 17-ketosteroid excretion occurs in both men and women with increasing age, but there is divergence of opinion between workers as to the time of onset and the extent of this decrease. A consideration of the data available shows the highest excretion for both men and women is between the ages of 20-30 years, and after this age tends to fall in both sexes. In the case of the men the fall is about 15 per cent of the peak value for each 10 years increase in age. In the case of women the fall is not so sudden, and there is a flattening out between the ages of 35-40 years, followed by a decline of the same order as that shown by the men.

Adrenal Cortical Hormone Levels in Normal Subjects

The earlier oxidation and reduction methods had only a limited usefulness in clinical diagnosis as they all gave very small values for normal excretion. Talbot *et al.* using unacidified urine showed a range 0-1-0.38 mg./day. With acidified urine, Heard and Sobel give a range 1.1-2.1 mg./day and Robinson and Norton a range 0.0-3.3 mg./day with a mean value of 1.61 mg./day for men and a range 0.6-2.7 mg./day with a mean value of 1.28 mg./day for women. In cases of marked endocrine disease the values obtained were sometimes well outside the normal limits, but frequently either within or so close to the normal range as to make the estimation valueless for diagnostic purposes. The methods were, however, useful in following the varying state of any particular patient.

The limitation of usefulness of these two methods, due to the small normal values, was overcome in both the chromogenic method of Porter Silber and the ketogenic method of Norymberski. Both of these methods gave a range and mean value which was sufficiently large to enable some assessment of the patient's endocrine status to be made.

Using the chromogenic method of Porter Silber, Reddy, Jenkins and Thorn (1954) obtained a range of 1.1-10.7 mg./day for normal subjects.

There is less information available about the urinary excretion of 17-ketogenic steroids and 17-hydroxycorticosteroids than there is about 17-ketosteroids. Our own normal figures are as follows :—

A group of 30 men (20-40 years) gave a range of ketogenic steroid excretion of 5-21 mg./day with a geometric mean of 11.1 mg. and 17-hydroxy corticosteroid excretion of 9-21 mg./day with a geometric mean of 13.1 mg./day. A group of 41 normal women (20-35 years) showed an excretion of 17-ketogenic steroids from 4-20 mg./day with a geometric mean of 9.2 mg. and of 17-hydroxycorticosteroids 5-20 mg./day with a geometric mean 10.5 mg. The results for 17-ketogenic steroids are in reasonable agreement with those of Levell, M. J., Mitchell, F. L., Paine, C. G. and Jordan, Arthur (1957), who give a geometric value of 12.0 mg./day for men and 9.3 mg./day for women, but are somewhat lower than those obtained by Diczfalusy, E., Plantin, L. O., Birke, G. and Westman, A. (1955), who report excretion in 17 men (22-37 years) with a range of 11.1-22.1 mg./day with a geometric mean of 15.1, and for a group of 20 women (17-47 years) a range of 6.9-17.9 mg./day with a geometric mean of 10.6 mg., day.

Excretion of 17-ketosteroids, 17-ketogenic steroids and 17-hydroxycorticosteroids in Patients Suffering from Endocrine Dysfunction

High Excretion

Patients suffering from Adrenal tumour, Cushing Syndrome and Congenital Adrenal

hyperplasia usually show excessively high excretion of these steroids.

(*a*) *Adrenocortical Tumours*

In seven cases of adrenal tumour the 17-ketosteroid excretion showed a range from 28 to 300 mg./day with a mean value of 134 mg.

In only two of these patients were the ketogenic and 17-hydroxycorticosteroids estimated. A 55 year old man suffering from a Cushing Syndrome due to an adrenal tumour had a 17-ketosteroid excretion of 28 mg./day and a 17-ketogenic and 17-hydroxy-corticosteroid excretion of 70-80 mg./day.

While an 18 year old girl with an adrenal tumour producing virilism had a 17-keto-steroid excretion varying between 300 and 700 mg./day and 17-ketogenic 38-90 mg./day and 17-hydroxycorticosteroid 70-210 mg./day.

(*b*) *Cushing Syndrome*

In addition to the case of Cushing Syndrome referred to above, six other cases of complete Cushing Syndrome due to adrenal hyperplasia showed a mean 17-ketosteroid excretion which was not grossly elevated. The range was 11-35 mg./day with a mean value of 21.6 mg. Only two of the cases were above 30 mg./day. The 17-ketogenic and 17-hydroxycorticoid excretion was, however, grossly increased in five cases investigated, a three to eight fold increase in the normal values, 17-ketogenic values from 29-80 mg./day with a mean of 67 mg./day, 17-hydroxycorticoids 33-80 mg. with a mean of 68 mg./day.

(*c*) *Congenital Adrenal Hyperplasia*

Cases of congenital adrenalhyperplasia show a high excretion of 17-ketosteroids, 17-ketogenics and 17-hydroxycorticosteroids at birth, and this excretion increases rapidly to the age of 6 or 7 years when they may excrete four to five times the normal adult values. The reducing steroids, however, are within or only just above the normal values.

Twelve cases of congenital adrenal hyper-plasia investigated in this hospital clearly demonstrate the increased excretion of 17-ketosteroids with age. Three children under 21 days of age showed an excretion of 1.3-2.4 mg./12 hours. A child of one year showed an excretion of 4.5 mg. which increased to 50 mg./day at the age of three years. Four other children, aged 2 years, 3½ years, 4 years and 6 years, had excretions of 17-ketosteroids of 7.4 mg., 13.4 mg., 13.9 mg. and 38.2 mg./day. Two 14 year old girls showed an excretion of 50 mg./day, and a 16 year old brother of one of these girls an excretion of 113 mg./day. Two women over 40 years of age, sisters, had an average excretion of 50 mg. and 66 mg./day respectively.

Patients with congenital adrenal hyper-plasia show excessively high values for 17-ketogenic steroids and 17-hydroxycorticoids. This is due to the excessive production of pregnane-3-alpha-17-alpha-diol-20-one and pregnane-3-alpha-17-alpha-20-alpha-triol which is characteristic of this condition. These biologically inactive steroids are not usually regarded as corticoids, as there is no hydroxylation at C_{-21}.

Low Excretion

Low values are encountered in cases of Addison's disease, Hypopituitarism and Myxoedema, and a single estimation of 17-ketosteroids and 17-hydroxy steroids is of little use in distinguishing between these conditions. Cases of myxoedema, however, undergoing successful thyroid therapy usually show an increased excretion of steroids. Differentiation between Addison's disease and hypopituitarism can be made from the response of the adrenals to stimulation with ACTH. Cases of Addison's disease will not respond even to prolonged stimulation, while cases of hypopituitarism will eventually respond to the stimulus with an increased excretion of steroids.

Normal or Near Normal Excretion

The most interesting cases which come into this group are women presenting a picture of hirsutes with or without obesity and hyper-tension. These women are not usually suffering from any recognisable endocrine disorder but have to be investigated to exclude this possibility.

A group of 41 women presenting hirsutism without any marked increase in weight showed a ketosteroid from 3.0-33 mg./day with a mean value of 18.5 mg., a 17-ketogenic steroid excretion of 4.0-22 mg./day with a mean value of 9.2 mg., and a 17-hydroxy-corticoid excretion of 4.0-23 mg./day with a mean value of 14.5 mg. This mean 17-ketosteroid figure is elevated about 50 per cent on the mean figure for normal women, while the 17-ketogenic and 17-hydroxy-corticosteroids are of the normal order.

A further group of 37 women with marked obesity showed a 17-ketosteroid excretion

ranging from 5.0-25 mg./day with a mean value of 13.5 mg., a 17-ketogenic steroid excretion 5.0-32 mg./day with a mean value of 15.4 mg., and a 17-hydroxycorticosteroid excretion 6.0-32 mg./day with a mean value of 19.3 mg. In this group the 17-ketosteroid excretion is not greatly elevated above the normal values, but both the 17-ketogenics and the 17-hydroxycorticoids are considerably elevated, the latter by nearly 100 per cent.

Conclusion

The main uses of the estimation of 17-ketosteroids, 17-ketogenic steroids and 17-hydroxycorticosteroids in clinical medicine are :—

(*a*) To confirm or disprove the presence of suspected endocrine disease.

(*b*) To establish the nature of this disease by differential diagnosis, e.g. ACTH stimulation can be used to differentiate between cases of adrenal insufficiency due to Addison's disease, and cases of hypopituitarism in which the adrenal insufficiency is secondary to this condition.

Cases of Addison's disease do not respond to the stimulus, in contrast cases of hypopituitarism do respond, with an increased excretion or urinary steroids, although in long standing cases the response may be delayed.

ACTH stimulation and cortisone suppression can be used to differentiate between cases of Cushing syndrome due to adrenal hyperplasia and those due to adrenal tumour. The urinary excretion in those cases which are due to adrenal hyperplasia show a marked response to these stimuli, by an enhanced excretion of urinary steroids in response to ACTH stimulation and a decreased excretion in response to cortisone. On the other hand, cases of Cushing syndrome due to adrenal tumour show no response to either stimuli.

(*c*) To follow the results of hormone therapy where this is used either to depress or increase the steroid excretion to normal levels.

This is particularly necessary in long term treatment of adrenal hyperplasia with cortisone or its more potent derivatives prednisone and prednisolone. Some patients respond to these hormones with a suppression of urinary steroid excretion which may persist for many months, without further treatment. Occasionally a patient may respond so dramatically that the urinary steroid excretion may fall to the dangerous level shown in cases of adrenal insufficiency.

The danger of oversuppression therefore makes it necessary that the steroid excretion of patients undergoing prolonged hormone therapy should be checked at regular intervals.

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From a letter received in the Hospital Office :—

23.4.59 TADWORTH, SURREY.

Would you kindly inform me if there is a Hospital that would give me a little plastic face lifting in return for my body at death. I am a widow, and do so want to keep on with my work. I have good blood and skin, and am a good patient.

TWO POEMS

by Elizabeth Hamilton

MOON MAGIC

Moon magic—made more magic by moving leaves and singing breeze.
More poignant by softness interspersed with sound,
Moon magic over Charterhouse.

Round and constant thing set behind and between,
Dark, shape-changing tree tops of London plane.
Moon magic over town.

Soft light of setting yellow squares of windows and gas lamps' limpid pools,
All revealing shabby old and sparkling new,
Moon magic among bricks.

Bricks—grey of Charterhouse—of Collets red and beige,
New and clean of line are College Hall and Golden Lane,
Moon magic over ornate Smithfield.

Moon magic seeping into the places, so quiet and still, whence men work by day.
Listening, without comment, to car brakes, footsteps and tube train.
Moon magic over the Hand and Shears.

Peace dropping through the branches to nest in the grassy square,
And dimly light a few random flowers,
Moon magic on cobble stones and railings.

Unrest and longing bred of the night, creeping as always, where loveliness is
Essence of nature soothing, yet keeping awake, tired being,
Moon magic after a busy day.

More complex than the harvest moon, for here is a seething human field
That can be cold or homely,
Moon magic over an acquired taste—London.

Moon magic—often seen across orchards and shadowy hills, still waters and windy sky,
And here the same—same bewitching
Unaccountable heart breaking and lonely—Moon Magic.

VOCATION

So you are going to be a nurse
And nothing I say about how
It's better or worse
Than what they say in the book,
Will make you alter your great decision !

You say in your mind, as two and a half years ago,
I said in my mind,
For me it will be different,
It will be as I want it to be,
I shall have all the fun I ever dreamed of
And, besides, I'm born to be a nurse !

Even so, I'll tell you about the life—
Our life. The life you'll lead.
At P.T.S. they'll treat you so that you are sapped in confidence.
You live in an all girl world
And when you come up to Town
You're the nervy junior, the nervy unsure,
Hardly being able to distinguish between
Students, porters, housemen and chiefs.

You'll hate the senior nurses,
You'll see life twisted up and death,
And wonder why you are so unmoved.

The hours are awful,
And you'll have to make your own clothes.
And grow away from the home circle.

But you'll learn—
That there are loops—good or crummy.
How to wear the uniform—becomingly !
How to run the gauntlet between the junior stripe,
The maid and an unkind staff nurse,
How to please almost everyone
And to make the most of the day.

You will want to leave,
But stay, for want of another job.
Suddenly—after some two or so years,
You'll become used to it, and even love the life,
Restrictions and all,
For now you know where the back doors are,
Having passed the wondering age,
And the accepting age,
Being at once resigned and understanding
You'll say you like it, meaning it,
But four years is enough !

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Birt, A. M.

★ ★ ★

DIFFICULTIES ON ENTERING GENERAL PRACTICE

by H. E. Thorn

The newly registered practitioner may find practice outside Hospital very disconcerting. This happens largely because the facilities to which he is accustomed are often not available, and if they are obtainable, they have to be got at in unfamiliar ways. The other great difference from work in a teaching hospital, is that more senior doctors are not so easily "on tap," and if several Specialists opinions are wanted, it becomes difficult to organise. A reference to a senior partner is likely to be very helpful, but if the junior doctor is on his own, it is much more difficult. I propose to discuss here the type of troubles which may beset the young G.P.

A doctor recently out of hospital may feel very shy and nervous on walking into a strange patient's house. He knows that when he has seen the patient, he has to make a diagnosis, and put it over well to the patient and/or his relations. If he has not made a diagnosis he is in trouble, because the patient expects a definite label for his illness. Under the circumstances he must get away with a discussion of symptoms, with or without opinions as to the cause and the prognosis. A young man must be careful not to commit himself too hastily. He cannot often be frank and say he " does not know." An older man, after 20 or more years, may know when he can admit that he does not know, but if he does this he must be prepared to suggest a further opinion, not only if the case appears to be serious, but if he finds that the patient or relatives think it is serious.

There are patients who are " Hospital-minded," particularly amongst the industrial and labouring classes, but it is often unwise to press hospital advice or investigation indiscriminately on better class patients.

The young G.P. probably does not know very much about midwifery, and much of his limited knowledge has been gained by hospital work in this field. He is, therefore, in difficulties when called upon to undertake obstetric cases. He is fortunate today that there is generally a midwife also on the case. Formerly this was not so. It is essential to try and see a good many babies born in the early days of general practice, otherwise it will be difficult to assess what is a serious complication. If a senior partner is available, the junior should not fail to call him in when in doubt about hospitalisation. In really acute complications the " Flying Squad " can be obtained from the nearest Maternity Hospital.

The inexperienced practitioner is in great trouble when he advises such serious treatment as emergency operation when the patient does not agree. He should press this if he thinks that life and death are at stake. But even then he must remember that the patient has a right to refuse operation, and prefer to die, if he feels strongly about it. In this case it is essential to try and get at least another opinion—preferably a specialist in the type of disease at stake.

I remember an assistant of mine seeing one of my patients when I was on holiday, and telling him that he had serious heart trouble. The patient was terribly upset over it, and I had to go to a lot of trouble to contradict it. The patient had a Systolic murmur, but the condition was well compensated, and was not really giving him trouble. This occurred over 20 years ago, and the patient is still in business in London, and reasonably well for a man of just over 70.

I also remember taking a young assistant to an old case of Mitral Stenosis. The bruit was so loud that you could hear it when standing alongside the bed, without any assistance from a stethoscope. This led to a discussion, during which I found that the assistant was surprised that I did not thoroughly examine the chest of each patient every time I attended, even in chronic cases. It is a matter of experience and tact to find out which patients expect frèquent examination, and which do not. This is a matter which it is difficult for a young G.P. to assess.

Writing prescriptions presents great difficulties—both in quantities and costs. I once

had an assistant who ordered ten times the full dose of strychnine. Fortunately it was written on an E.C.10, and was returned by the chemist to the doctor, who still failed to see what was wrong and returned it to the chemist. He then sent it to me, as Principal, and that was how I found out.

In hospital, and during training, the medical student does not seem to be taught anything about the cost of drugs ; nor does he know what quantities to order on a prescription.

A mental case appearing in the middle of a busy surgery often presents great difficulty to a young assistant. In the first place he is not really expecting it, and very likely does not diagnose it rapidly. It may present itself in many forms—often obsessional, with so much emphasis on the physical, that it is easy to fall into the trap that this is real. Much time is often required to tackle such a case, and it is difficult or impossible to give this at the time. If possible, it is well to temporise, and find an opportunity to investigate at another time, or refer the patient to a Psychiatrist.

The acute mental case is a problem in quite another way. When to give adequate dope, and when to call in the D.A.O. or a further medical opinion, are the questions to be solved.

The patient who has trouble from ill adjustment of sex in its various forms, sometimes knows that this is his or her trouble, but is too shy to approach it, particularly if the doctor is a stranger professionally. These cases present themselves as minor ailments in the form of " fencing," and it is difficult to assess them. I find that there is often a clue to be found by an atmosphere of worry over what is obviously a trifle, and admittedly so, even by the patient. The minor ailment has a twofold object. It serves as a subject for talk, and also an excuse to the relative for going to see the doctor. This is, of course, very important, and must be treated in some cases, so that the patient can attend for further advice on matters which she cannot discuss with her relations or neighbours.

I think it will be clear from this short survey that general practice presents quite a different aspect of medicine from that experienced by the student and House Officer in hospital.

TO CROATIA BY AMBULANCE

by Mivart Thomas

The Balkan States seemed far enough away to be the objective for a summer Long Vacation. My eye wandered to Croatia across the map, and I knew where I wanted to go.

I began the search for a vehicle strong enough to stand up to Yugoslav roads. A lorry would have cost too much to equip, so I decided on an ambulance. I sent off some twenty letters, and eventually found an ideal machine at a reasonable price. It was a monster of a 27 h.p. ambulance, 18 feet long and over eight and a half feet high, complete with stretchers and smoked glass windows. The engine sounded good and, judging I would not need to spend any more money on it, I was able to buy it on the spot, rush through the licensing formalities, and drive it back to Cambridge the same day.

Owning an ambulance is a strange affair. I found that everyone on the roads gave me right of way. And parking outside somebody's house soon brought anxious enquiries. My landlady asked if I'd mind leaving the ambulance round the corner in future, because all the neighbours had been to see how she was. And when I visited my uncle, who is a psychiatrist, there was an fantasitc rumour of an attempted suicide in the consulting room.

So it was with some trepidation that, with five companions, I eventually set out for

Yugoslavia. The Channel was crossed without event. The customs officer tried to peer through the dark windows behind—where the other four were—gave a knowing grin and said he wouldn't disturb the ladies.

We drove to Paris, and did a few circuits in the mêleé round the Arc de Triomphe, then straight on to the Mediterranean, through St. Raphael, Cannes, Monte Carlo and the Italian Riviera. We were warned not to tempt the armed brigands who were suspected of being in the Bracco Pass at that time. And we learned to deal with the excessively belligerent tooting of French and Italian drivers on the way south, by fixing a great squeeze-type motor horn on the back of the ambulance, and mounting a " duty-tooter," whose job it was to retaliate with interest against noisy people on our tail. We eventually passed on, through Florence and Venice, into Yugoslavia.

Serbo-Croat proved to be a relatively easy language to pronounce, and we found that the most elementary phrase-book type courtesies, practised furiously for the last few hundred yards of Italian territory, had a very good effect upon the Yugoslav customs officers, who were at first forbiddingly stern.

We drove to Rijeka that day. There was very little traffic about, and children at the roadside waved to us everywhere. We gave several lifts between villages, and eventually camped near a village in Croatia just outside Rijeka. After we had had supper, I wandered off by myself. It was just dark as I went up the steep hillside track. The rough stones crunching under my feet showed soft and white in the moonlight and, away to the right below the rock strewn slope and low trees, the Adriatic Sea gleamed darkly. I walked with the gentle murmur of the sea wind, and thought I heard music in the distance. Quickly it faded in the wind and the click of the stones. But then, with a stronger puff of wind, the sound of gay dance music flew across the country. I rounded a bend, and there, beside a few cottages in a village square, were an accordian band and the villagers dancing. Between dances the young men all sat around with bottles of wine at tables on one side of the square, and the girls crowded around the other side. I was taken over to one of the boys who spoke a bit of English, and was very warmly welcomed by him and his friends. Their English was halting, but I later discovered that they could quote more Shakespeare than I.

It was still fairly early, so I decided to run back to our camp and fetch the others. When we returned to the dance, we were greeted by the Yugoslav boys with bottles of wine, and we drank and danced through the night.

We spent several delightful days there, swimming in the clear sea, walking the country—even dancing the Kola in the Park of Rest and Culture in Rijeka. And when we left, we were given presents of baskets of fresh green figs picked from the trees that morning.

We drove on to Zagreb, and then carried on north across the frontier in Austria. Our way home was through Munich and the Rhone Valley to Boulogne via Brussels. Our only serious hitch came when we got to Boulogne and found there was no room for us on the boat. Many other people were stranded, too, and so a boat was sent across especially to pick us up. When the A.A. representative came across to us, he asked us how much the ambulance weighed. It was two and three-quarter tons. " They won't take you if you are over two and a half tons," he said. So when the ship's officer came around we took our the spare wheel and trusted in there being the usual liberal safety margin.

" No more than two and a half tons ? " asked the ship's officer, " because there's no room for you in the hold, and you'll have to go on the fore-deck. You'll have to reverse on board and go over an iron hatch-cover which will only take two and a half tons. If you go through that, you'll ruin the ship."

" Two and a half tons," I said.

We were the last vehicle to go aboard. The others walked on, and I had the doubtful privilege of reversing the ambulance across the gangplank. The Captain himself stood above the deck on the bridge giving directions, and slowly, agonisingly, I went over the hatch. Nothing happened. I climbed down and had a look around. The rear left wheel was an inch from the ship's rail ; the top of the ambulance had just slid under the projecting corner of the bridge. And, lining the rail, watching at a safe distance, were the rest of the ship's passengers with half the crew.

SPORTS NEWS

VIEWPOINT

The welcome return of white flannels and the familiar chime of croquet balls come as a herald of the joys of summer.

What memories are evoked by the cry of "no ball" reaching even the inner recesses of the beer tent, or the relentless voice from the umpires' chair, love thirty, love forty, game, set and match to . . . The water lapping gently by the edge of geometrically mown lawns, blazers and caps. The punt slowly drifting downstream, the boom of the start and finishing gun engender in many the feeling of better days that are now, alas, past.

For those who are still anxious to exert themselves in the many opportunities of gamesmanship presented. There is also the hope that their efforts will be accompanied and rewarded by at least some lasting memories of happiness there to be gained.

SWIMMING CLUB

At the end of the first year of the Swimming Club it is gratifying to report some concrete evidence as to its activities.

Last winter the newly-formed club began with weekly outings to St. George's Baths, Buckingham Palace Road, every Tuesday evening. These evenings, having proved fairly popular, we were confident, when asked to enter a relay team in the Royal Free Hospital Gala in October, that we were prepared for competitive swimming.

Having won the invitation relay race at this event, we felt more sure of ourselves, and entered a team in the University Water Polo League, which took place in the Lent Term. For the remainder of the Christmas Term we were intent on practising water polo, and arranged one or two friendly matches with our coming opponents.

The Lent Term has been our busiest so far, and the programme included the matches to be played off in the Water Polo League (IIIrd Division) and the University of London Championships, the results of which are given below.

Results

Water Polo

Played 8, won 7, lost 0, drawn 1. Goals for 52, against 17.

U.L.U. Championships

Diving. 1st, C. Ruoss ; 2nd, D. Shand.

Freestyle Relay. 1st, Battersea ; 2nd, St. Bart's.

Final Placing. 4th.

It is worth pointing out that this final placing is a result of points gained in only two events.

At this time also, one of the members, C. Ruoss, gained first place in the high board diving and second place in the spring board diving in the British Universities' Championship.

This term we have again arranged weekly outings, this time on Wednesday evenings to Caledonian Road Baths, which we share with the Northern Polytechnic Swimming Club. Also, we are entering the United Hospitals' Championships, the results of which will be published later.

Next year, with more members and more training, and with this year's experience and moderate success behind us, the Club should be able to flourish beyond all our hopes of a year ago.

Teams drawn from : P. Brunner, J. Collier, W. A. M. Davies, B. Gurry, R. Hillier, R. Merry, C. Ruoss and D. Shand.

R. M. DRAKE.

RIFLE CLUB

This club has had the most successful small bore shooting season for many years. Eight teams have competed in six leagues, winning five of them, including the Inter-Hospital Lloyd Cup. The total number of matches shot was 73, including two shoulder to shoulder.

Lloyd Cup, 1st team.

Position 1st ; 8 matches won ; 1 lost.

Team : J. D. Hobday (*Capt.*), M. T. Barton (*Sec.*), G. R. Hobday, R. P. Ellis and A. M. Ward. F. A. Strang also shot.

Lloyd Cup, 2nd team

Position 6th ; 3 matches won ; 5 lost.

Team, led and organised by A. M. Holloway : A. M. Holloway, P. N. Riddle, A. J. B. Missen, and D. B. M. Howells. Also shot : G. W. Gabriel, F. A. Strang, P. Bennet, Z. Gardner, A. V. Watkins and A. J. Austin.

Tyro "X"

Position 1st ; 7 matches won ; 1 lost.

Team : A. M. Ward, M. T. Barton, A. M. Holloway, A. J. B. Missen and P. N. Riddle. Also shot : G. W. Gabriel, K. E. Grey, and R. G. Miller

Tyro "Y"

Position 5th ; 3 matches won ; 5 lost.

Led and organised by P. Bennet, K. Wise and G. Richards.

Those who shot were : P. Bennet, K. Wise, G. Richards, A. J. Austin, C. J. Griffiths, R. W. Gabriel, Z. Gardner, J. Snow, K. Grey and J. Cannon.

Pistol

University of London, Div. I

Position 4th.

University of London, Div. II

Position 1st.

Those who shot were : G. R. Hobday, R. P. Ellis, J. D. Hobday, D. Metten, M. T. Barton, J. R. Strong and D. H. Dick.

Standing and Kneeling, organised by A. M. Ward
University of London, Div. II
Position 1st ; 7 matches won ; 1 lost.
Team : G. R. Hobday, A. M. Ward, R. P. Ellis and P. N. Riddle.
N.S.R.A., Div. 10
Position 1st ; 9 matches won, nil lost.
Team : A. M. Ward, J. D. Hobday and R. P. Ellis.
During the season the following shot for the United Hospitals' Small Bore team : A. M. Ward, R. P. Ellis, G. R. Hobday and M. T. Barton.
The Lady Waring Cup for the best average throughout the season is awarded to A. M. Ward, average 96.62. M. T. Barton is runner-up.

J. D. HOBDAY, *Capt.*

ATHLETICS

The opening match of the season was a three-cornered one between Barts, King's College Hospital and Wye College, at Denmark Hill, on Tuesday, April 28th. The final result was a convincing win by Barts by 88 points to King's 66 points and Wye's 59 points.

This result for the first match was extremely encouraging, and there were several new faces to be seen amongst the usual stalwarts who turn out regularly for the club. A very welcome sign was the ability of the club to produce four sprinters for the 4×110 yds. relay, who, once over the difficulty of passing the baton fron one to another, should during the season gain further victories.

Out of the eleven events, Bart's had first place in six and, in fact, had a man in the first three in every event. The full results were :—

100 *Yards.* 1st, G. Halls ; 3rd, C. Richards.
220 *Yards.* 2nd, G. Halls ; 3rd, N. Burbridge.
440 *Yards.* 2nd, C. Bridger ; 3rd, E. R. Hillier.
880 *Yards.* 3rd, P. Littlewood.
One Mile. 1st, P. Littlewood.
Shot. 1st, K. Nage ; 2nd, J. E. Stevens.
Discus. 1st, K. Nage.
Javelin. 1st, M. Orr ; 3rd, C. Richards.
Long Jump. 3rd, B. Marsh.
High Jump. 3rd, B. Marsh.
Relay. 1st (B. Marsh, N. Burbridge, C. Richards and G. Halls).

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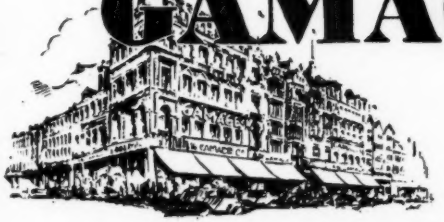
The skilled radiotherapist may justifiably plead that his successes, and there are many, are comparable to surgical successes and the failures which may occur in units where there is defective judgment, skill and experience are comparable to the unsatisfactory results produced by a surgeon unskilled in reconstructive work. However, serious irradiation complications are worse than surgical failures and considerably more difficult to remedy.

So a pleas is made for the surgical treatment of malignant neoplasms of the eyelids. The healing is quicker and cleaner and the structural and functional results are, I think, better than after irradiation.

Moreover, my impression is that the incidence of recurrence of the malignant neoplasm is appreciably less after adequate surgery than after irradiation; and there are no serious ocular complications. I thank Mr. Norman Harrison for much valuable help with the excellent photographs he has taken of the patients and my drawings. Also I am grateful to the Medical Illustration Department, Institute of Ophthalmology for the production of some of the illustrations of patients operated on at Moorfields Eye Hospital.

GAMAGES



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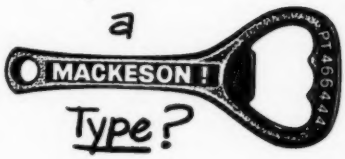

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